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FEDERAL COMMUNICATIONS COMMISSION

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of:	)	
	)	
Advanced Television Systems	)	MM Docket No. 87-268
and Their Impact Upon the	)	
Existing Television Broadcast	)	
Service	)	

To: The Commission

Comments of Texas Instruments, Inc.

Texas Instruments, Inc. ("Texas Instruments") hereby submits its comments in response to the Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry in the above-captioned proceeding.[1]

I. STATEMENT OF INTEREST

Texas Instruments is a high-technology company headquartered in Dallas, Texas, with manufacturing facilities in 18 countries and marketing or engineering services in more than 30 countries. Texas Instruments products and services include semiconductors, defense electronics systems, digital light processing subsystems, software productivity tools, printers, notebook

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[1] Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry in MM Docket No. 87-268, FCC 95-315, 60 Fed. Reg. 42,130 (August 15, 1995) (hereinafter "Fourth NPRM").

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computers and consumer electronics products, custom engineering and manufacturing services, electrical controls, and metallurgical materials.

Texas Instruments Semiconductor Group has combined a breadth of silicon technologies, hardware and software development tools, design information services, and worldwide support and places a strategic emphasis on semiconductors that comprise the heart of multimedia and digital communications. In particular, Texas Instruments is an acknowledged leader in the development and manufacturing of digital signal processing semiconductors, called DSPs, which are critical to a digital revolution that depends on timely communications and the growing requirements for full motion video for a variety of applications. Texas Instruments also emphasizes connectivity in all areas of the networked society, using DSPs to integrate with mixed signal devices and embedded software for linking digital signals to the analog world.

All of these activities place Texas Instruments in the forefront of the digital video revolution and have lead the company to actively participate in the development of advanced television technology and standards. Texas Instruments also has developed a revolutionary all-digital method for information display with the Digital Micro-mirror Device™, or DMD™, that promises to play a key role in the presentation of advanced digital video.

II. COMMENTS

Texas Instruments applauds the Commission's interest and leadership in advanced television. The industry-driven process fostered by the agency and its Advisory Committee on Advanced Television Service has developed the world's preeminent digital video transmission

technology. The issue at hand in the current rule making proceeding is no less than defining what form of television service the United States public will have in the next century. Texas Instruments believes that continuing technological improvements will offer broadcasters, content providers, and consumer electronics companies challenging opportunities to serve the public in new and exciting ways.

A. Framework for Analysis

In analyzing the comments received in response to the Fourth NPRM, Texas Instruments believes that the FCC should develop rules embodying the principle that open market competition ultimately should determine the balance among various advanced television ("ATV") services. The Commission's ability to foster this sort of market-driven balancing of services is a direct result of the spectrum efficiency and technical flexibility of the ATV system under consideration. Indeed, ATV technology will be able to provide (and the Commission should permit) either higher quality video using the data capacity of the entire channel or programs with today's TV video quality for much less than the entire data capacity. The agency also should take advantage of the system's flexibility by allowing and encouraging ancillary data services beyond traditional television programming.

Many historical examples can be cited where flexibility and deregulation have encouraged innovation and advancement. Texas Instruments believes that limiting the services that broadcast stations offer may reduce future technological advances. Indeed, as a high technology company known for innovation, Texas Instruments is keenly aware that new

technical capabilities and services cannot be foreseen and, thus, should not be foreclosed. With these principles in mind, Texas Instruments offers the following specific comments.

B. Mix of ATV Services

The FCC seeks comment on the mix of ATV services that are possible using technology built to the ATSC Digital Television Standard. Fourth NPRM at ¶¶ 23-24. There are three such services: (1) high definition television ("HDTV"), which is a video service that employs the 1080 or 720 line scanning formats in the ATSC standard; (2) standard definition television ("SDTV"), a video service that uses the 480 line formats of the ATSC standard; and (3) ancillary data services of video or non-video content.

In general, Texas Instruments believes it is premature for the FCC to attempt to regulate the mix of ATV services by, for example, requiring a certain amount of transmission capacity to be allocated for video programming. Beyond avoiding the obvious administrative nightmare enforcement of such requirements could create, Texas Instruments believes freedom from regulatory constraints will enhance television's functionality and appeal beyond its traditional entertainment value to encompass new and unforseen services, many of which will advance the goals of National Information Infrastructure initiatives.

Indeed, although the appeal of true HDTV is well-recognized, Texas Instruments believes that SDTV broadcasting is an important component of ATV and should not be precluded. In particular, SDTV may offer an economical service for broadcasters to provide during the period of transition from the analog to digital transmission. However, without setting artificial limits on

the extent of ancillary services, the Commission should recognize that HDTV/SDTV and ancillary services can and should coexist on the same channel without impairing the quality of the video signals.

C. All-Format Receivers

The Commission seeks comment on so-called "all-format" ATV receivers. Fourth NPRM at ¶ 78. In order to achieve full compatibility with HDTV, Texas Instruments believes that -- particularly for those units sold in the transition years -- ATV receivers and set top boxes designed to receive ATV broadcast signals for display on NTSC television sets should be able to decode both SDTV and HDTV video transmissions.[2] Texas Instruments believes that economical methods exist to accomplish this in receivers.

Texas Instruments does not believe, however, that the Commission should (or has the authority to) regulate how video is displayed on ATV receivers. It should be sufficient, for example, that some ATV receivers will display both SDTV and HDTV broadcasts at SDTV resolution. Even if the FCC had authority to regulate picture quality, such action would be poor public policy because of the need that manufacturers have to differentiate their products and

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[2] The All-Channel Receiver Act, *codified at* 47 U.S.C. § 303(s) (1988) ("ACRA"), gives the FCC authority to require that receivers "adequately receiv[e] all frequencies allocated by the Commission to television broadcasting . . .." *Id.* This could be interpreted to authorize the agency to require that receivers display compliant ATV broadcast signals in an adequate form. In *Assoc. of Maximum Service Telecasters v. FCC*, 853 F.2d 973 (D.C. Cir. 1988) the D.C. Circuit held that, in the ACRA, "Congress did not . . . affirmatively state what sorts of devices fall into the television broadcast receiver category, leaving that gap-filling task instead to the agency." *Id.* at 978. Thus, the ACRA also could apply to set top boxes used to receive ATV broadcasts for display on NTSC receivers.

picture quality. Also, the Commission simply lacks the resources to evaluate and compare the video caliber of different brands of television. It is also unclear how the Commission would take into account the capabilities of the underlying display technologies used.

III. CONCLUSION

Texas Instruments believes that regulatory flexibility will foster technical innovation in improved and altogether novel ATV services. The FCC's rules should foster, not restrict, this innovation in the public interest.

Respectfully submitted,

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